FIRE PROTECTION

FPE REVIEW COMMENT RECORD

Date: August 19, 2008

Review #: FP08-50

Subject: Building 1247B: Room 109 Clean Room Addition

Project Received On: August 18, 2008

Project Review Completed and Comments Returned: August 19, 2008

Comments:

The following comments are based on our review of the proposed modular clean room to be added to Rm. 109 in BLDG 1247B.

LPR 1710.11 Fire Protection Program
(NASA clean rooms shall be constructed and protected in accordance with the appropriate provisions of National Fire Protection Association (NFPA) 318 and FM Data Sheet 1-56).

1. Automatic fire suppression shall be provided throughout facilities containing clean rooms and clean zones. Sprinklers shall be installed throughout all clean rooms regardless of classification. Sprinkler temperature rating within the clean room shall be 130°F. Special consideration shall be given for installation of local application, gaseous suppression systems to protect special hazards. However the AHJ for NASA LaRC will allow the use of a clean agent as a deviation to this requirement given that BLDG 1247B Rm. 109 is un-sprinkler and it would not be cost effective to sprinkler new clean room. The clean agent currently used at NASA LaRC is FM-200.

2. Clean rooms shall be separated from adjacent occupancies by 1-hour fire resistant construction

3. High-efficiency particulate air (HEPA) filtration systems shall be in accordance with Section 8.15 of this document. Clean room ventilating ducts and equipment shall be constructed of noncombustible materials.

4. A complete fire detection and evacuation alarm system shall be provided in facilities containing clean rooms and clean zones. Currently NASA is

requiring VESDA air sampling systems for early smoke detection in all clean rooms.

5. Clean room shall have emergency lights installed in accordance with the Life Safety Code NFPA 101 and shall be of the self testing type currently being used by NASA LaRC

6. Clean room shall have lighted exit signs as required by Life Safety Code NFPA 101.

7. Low O2 detection system shall be purchased and installed in the clean room due to Argon and Nitrogen being piped throughout the area. O2 system shall be tied to the fire alarm system and send a signal back to the fire station (BLDG 1248). System type shall be the standard system used by NASA LaRC.